AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) An apparatus for casting a structure comprising:

a vertically parted sand mold assembly having a first side pattern defining a first impression and a second side pattern defining a second impression, at least one of said side patterns defining a molten metal pouring basin cavity communicating with a sprue, and at least one of said side patterns having a core, the core defining an imprint surface and said core defines an aperture that is configured to function as a gate which fluidly couples the pouring basin cavity to a separate casting cavity formed by the first and second impressions said core further defining a backsplash.

2. (cancelled)

3. (original) The apparatus of claim 1 wherein the gate is a notch gate.

4. (cancelled)

5. (original) The apparatus of claim 1 wherein the core defines a J-shaped fluid trap.

6. (original) The apparatus of claim 1 wherein the first side pattern contains no feature of the cast part.

7. (original) The apparatus of claim 1 wherein a core is a resin bonded shell.

8. (original) The apparatus of claim 1 wherein the gate contains a fusible plug.

9. (original) The apparatus of claim 8 wherein the fusible plug is a steel disk.

10. (original) The apparatus of claim 8 wherein the fusible plug is cup shaped.

11. (previously presented) The apparatus of claim 10 wherein the fusible plug has retention ears for coupling to the core.

12. (original) The apparatus of claim 1 wherein the gate contains a filter element.

13. (original) The apparatus of claim 12 wherein the filter element is a ceramic filter inserted within the gate.

14. (original) The apparatus of claim 12 wherein the filter element is a ceramic.

15. (original) The apparatus of claim 12 wherein the filter further comprises a fusible plug.

16. (original) The apparatus of claim 15 wherein the fusible plug is a steel disk.

17. (previously presented) The apparatus of claim 15 wherein the fusible plug is coupled to the core.

18. (original) The apparatus of claim 15 wherein the fusible plug is cup shaped.

19. (original The apparatus of claim 18 wherein the fusible plug has ears coupled to the core.

20. (original) The apparatus of claim 18 wherein the fusible plug is bonded to the core with an adhesive.

21. (original) The apparatus of claim 18 wherein the fusible plug contains an inoculant.

22. (original) The apparatus of claim 18 wherein the fusible plug assists in the formation of compacted graphite.

23. (original) The apparatus of claim 12 wherein the gate is a hole disposed through the core element.

24. (previously presented) An apparatus for casting a scroll component comprising:

a vertically parted sand mold assembly having a first side pattern defining a first impression and a second side pattern defining a second impression, at least one of said side patterns defining a molten metal pouring basin cavity communicating with a sprue, and at least one of said side patterns having a core, the core defining an involute imprint surface and the core defines an aperture that is configured to function as a gate, the aperture fluidly couples the pouring basin cavity to a separate casting cavity formed by the first and second impressions, wherein the aperture is defined between the pouring basin cavity and the separate casting cavity.

25. (original) The apparatus of claim 24 wherein the core defines a J-shaped fluid trap.

26. (original) The apparatus of claim 24 wherein the first side pattern contains no feature of the cast part.

27. (original) The apparatus of claim 24 wherein a core is a resin bonded shell.

28. (original) The apparatus of claim 24 wherein the gate contains a fusible plug.

29. (original) The apparatus of claim 28 wherein the fusible plug is a steel disk.

30. (original) The apparatus of claim 24 wherein the fusible plug is cup shaped.

31. (original) The apparatus of claim 24 wherein the fusible plug contains an inoculant.

32. (previously presented) The apparatus of claim 24 wherein the sprue and pouring basin cavity are formed in the second side pattern.

33. (original) The apparatus of claim 24 wherein the sprue and the pouring basin are formed in the first side pattern.

34. (previously presented) A method of casting a scroll component comprising the steps of:

providing a mold having a vertical parting line and a first and second side mold, at least one of said side molds defining a molten metal pouring basin cavity communicating with a sprue, the second side mold having a core, the core has an imprint surface and the core defines an aperture which fluidly couples the pouring basin cavity to a separate casting cavity defined by the mold therethrough, the core further defining a back splash;

providing a fusible plug in the aperture; and

providing molten metal into the pouring basin.

35. (previously presented) The method of claim 34 wherein providing a fusible plug in the aperture, includes providing a fusible plug in the aperture which reduces the velocity of the molten metal entering the aperture.

36. (previously presented) The method of claim 34 wherein providing a fusible plug in the aperture, includes providing an inoculant.

37. (original) The method of claim 36 wherein providing a mold includes providing a riser neck and providing a fusible plug is providing a fusible plug in said riser neck.

38. (original) The method of claim 36 wherein providing a mold includes providing a riser neck and providing a fusible plug is providing a fusible plug in said riser neck.